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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC, Plaintiffs, vs. CANON, INC., et al., Defendant(s).	Case Number: C 14-03640-CW Hon. Judge Claudia Wilken
TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC, Plaintiffs, vs. FALCON COMPUTER SYSTEMS, INC., Defendant(s).	Case Number: C 14-03641-CW Hon. Judge Claudia Wilken

TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC,

Plaintiffs,

vs.

HEWLETT-PACKARD COMPANY,

Defendant(s).

Case Number: C 14-03643-CW

Hon. Judge Claudia Wilken

TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC,

Plaintiffs,

vs.

KINGSTON TECHNOLOGY CO., INC.,

Defendant(s).

Case Number: C 14-03644-CW

Hon. Judge Claudia Wilken

TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC,

Plaintiffs,

vs.

NEWEGG INC., et al.,

Defendant(s).

Case Number: C 14-03645-CW

Hon. Judge Claudia Wilken

TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC,

Plaintiffs,

vs.

SEIKO EPSON CORPORATION, et al.,

Defendant(s).

Case Number: C 14-03646-CW

Hon. Judge Claudia Wilken

TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC,

Plaintiffs,

vs.

SHUTTLE COMPUTER GROUP INC.,

Defendant(s).

Case Number: C 14-03647-CW

Hon. Judge Claudia Wilken

TECHNOLOGY PROPERTIES LIMITED LLC and MCM PORTFOLIO LLC Plaintiffs, v. SONY CORPORATION, et al., Defendants.	Case Number: C 14-04616-CW Hon. Judge Claudia Wilken

PLAINTIFFS' OPENING BRIEF ON CLAIM CONSTRUCTION

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EXHIBIT	DESCRIPTION
A	US Patent No. 7,719,847
B	US Patent No. 7,522,424
C	US Patent No. 7,295,443
D	US Patent No. 6,438,638
E	Initial Determination on Violation of Section 337, USITC, Inv. No. 337-TA-841 (Aug. 2, 2013)
F	Commission Opinion, USITC, Inv. No. 337-TA-841(Jan. 9, 2014)
G	Merriam-Webster Collegiate Dictionary (10th ed., 2001)
H	Merriam-Webster's Dictionary (Online)
I	'847 File History, Resp. to Sept. 21, 2009 Office Action
J	Oxford Dictionary of Computing (6th ed. 2008)
K	Oxford Dictionary of Computing (4th ed.1996)
L	Freedman, The Computer Glossary (9th ed. 2001)
M	IBM Dictionary of Computing (10th ed. 1993)
N	Order No. 23, Claim Construction Order, USITC, Inv. No. 337-TA-841
O	August 2, 2012 Decl. of Dale Buscaino
P	January 29, 2015 Declaration of Dale E. Buscaino
Q	Order No. 40, Order Denying HiTi Motion for Summary Determination, USITC, Inv. No. 337-TA-841
R	'847 File History, Resp. to Mar. 9, 2009 Office Action
S	'424 File History, Resp. to Mar. 14, 2008 Office Action
T	'847 File History, Index of Claims

I. INTRODUCTION

Plaintiffs submit their opening claim construction brief for the patents-in-suit: U.S. Patent Nos. 7,295,443 (the "'443 patent"), 7,522,424 (the "'424 patent"), and 7,719,847 (the "'847 patent"). For the reasons explained herein, Plaintiffs' proposals should be adopted. Defendants' proposals should be rejected.[1]

II. THE PATENTS-IN-SUIT

The patents-in-suit are directed to devices for reading removable memory cards, such as those used with digital image capture devices—such as digital still cameras, camcorders, and mobile phones with integrated cameras. For example, memory cards are used to record and store photos taken on a digital camera. They can be removed and inserted into a computer, printer, or digital photo frame to view and/or print the photos.

The proliferation of digital image capture devices popularized a variety of memory cards, such as SmartMedia, CompactFlash, Secure Digital, MultiMediaCard, xD Picture Card, and Memory Stick. The variety of formats presented a potential problem for digital devices that needed to interface with different types of memory cards. The inventions of the patents-in-suit served to overcome this problem by enabling production of memory card readers that can accept and read multiple types of flash memory formats in a single slot in a single physical device. *See* '424, '443, and '847 patents, Abstract; *E.g.*, '424 pat. at 5:54-59, 6:23-31. These readers are more convenient than other solutions such as transfer cables or wireless transfer technologies, which are more cumbersome, expensive, and complicated for users.

To accommodate different types of memory cards in a single slot, the multi-memory media adapters of the patents-in-suit utilize a controller. *E.g.*, '847 patent at 8:35-56. The controller physically connects to signal lines. *Id.* The signal lines physically connect to interconnection means. *Id.* The interconnection means physically connect to contact pins. *Id.* The contact pins physically mate with corresponding contacts on a memory card that is inserted

[1] Defendants' proposals addressed herein are set forth in the parties' joint claim construction statement filed in the Eastern District of Texas before these cases were transferred. Although the Sony Defendants were not parties to that statement, Plaintiffs assume that the Sony Defendants have adopted the Defendants' proposals, as these cases are related.

into the slot. *Id.* at 5:21-22. This order of arrangement is illustrated below:

[controller] → signal lines → interconnection means → contact pins → [memory card]

While the *physical* paths between the controller, signal lines, interconnection means/pins, and contact pins are fixed, the signals that are communicated between these paths cannot be fixed. Some memory cards have different numbers of contacts and require a different number of signals. *See, e.g.,*'847 pat., Figs. 4 and 5. These cards therefore require different numbers of signals on different numbers of contact pins that they mate with. *Id.* While some different card types may mate with common contact pins, different signals may be required on the common contact pins for each card. *Id.* Thus, the inventions make use of, *inter alia*, a controller to "map," or logically assign, the requisite signals between (a) signal lines or interconnection means/pins and (b) contact pins, to enable it to communicate with different card types that may be inserted into a single slot. *Id.* at 8:46-51. The assignments must be logical because they are not physical assignments.

Figure 5 is an exemplar embodiment in the specifications that is helpful to understand the mapping function of the controller. In Figure 5, seventeen (17) pins are utilized if an inserted card is identified as a SmartMedia card in some embodiments. *See id.* at Fig. 5; '847 pat. at 6:10-49. The controller would then "map," or logically assign, power, ground, or data signals between (a) signal lines or interconnection means/pins and (b) contact pins as required for SmartMedia. *Id.* However, if an inserted card is identified as a Memory Stick card, nine (9) pins are utilized. *Id.* In this case, the controller would "map," or logically assign, signals between the (a) signal lines or interconnection means/pins and (b) contact pins as required for Memory Stick cards. *Id.*

PIN	XD	MMC/ SD (REGULAR SIZE)	MEMORY STICK (REGULAR SIZE)	SMART MEDIA	MINISD	RS MMC	MEMORY STICK DUO
1	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND	GROUND
2	-CD1						
3	RDY	MCMD	BS	RDY	MCMD	MCMD	BS
4	-RE	SD0	SDIO (MSD0)	-RE	SDD0	SDD0	SDIO (MSD0)
5	-CS	SD1	MSD1	-CS	SDD1	SDD1	MSD1
6	CLE	SD2	MSD2	CLE	SDD2	SDD2	MSD2
7	ALE	SD3	MSD3	ALE	SDD3	SDD3	MSD3
8	-WE	CLK	CLK	-WE	CLK	CLK	CLK
9	WP	-WP		WP			
10	D0	-CD2		D0			
11	D1		-CD3	D1			
12	D2			D2/-CD4			
13	D3			D3	-CD5		
14	D4			D4		-CD6	
15	D5			D5			-CD7
16	D6			D6/-WPSW			
17	D7			D7/LVD			
18	POWER	POWER	POWER	POWER	POWER	POWER	POWER

FIG. 5

As described above, the physical connections are in place, but logical mapping must be done by the controller in order for an inserted card to communicate with the controller. The patents-in-suit claim various aspects of this invention.

III. PROCEDURAL HISTORY

The patents-in-suit were previously asserted against the majority of Defendants in ITC Inv. No. 337-TA-841.[2] The ALJ's Initial Determination and the Commission Opinion concluded that the accused products did not infringe *solely* based on the finding that they did not meet the "mapping" and "to map" limitations of the asserted claims. Init. Det. at 46, 48, Inv. No. 337-TA-841 (hereinafter, "ID"), Ex. E; Commission Op. at 21, Inv. No. 337-TA-841, Ex. F.

Defendants are likely to make much of these rulings, but it is significant to note that neither the Initial Determination nor Commission Opinion ever articulated the meaning of "mapping" that was applied in their non-infringement findings.[3] To the extent that Defendants rely on these findings, they are at best attempting to parlay aspects of the non-infringement finding into a claim construction ruling, but as set forth in detail below, it is clear that what they propose is not supported by the intrinsic record. Therefore, the scope of the mapping terms remains an open issue that is key to determining infringement in this case.[4]

IV. APPLICABLE LAW

Claim construction is a question of law. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). A construing court must ascertain the meaning and scope of the relevant claims. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004). A maxim of claim construction is that claims should be so construed, if possible, as to sustain their validity. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1327 (Fed. Cir. 2005).

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[2] The investigation was captioned as *Certain Computers and Computer Peripheral Devices and Components Thereof and Products Containing The Same*, Inv. No. 337-TA-841. Reference to Defendants in Inv. 841 excludes Sony Defendants, who were not parties in that investigation.

[3] The ALJ appears to have determined that "mapping" and "to map" should be given their plain and ordinary meaning but obviously ascribed something more and unstated in reaching the non-infringement position.

[4] Plaintiffs accordingly ask that the Court resolve this dispute. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008).

The Federal Circuit has repeatedly stated that "the words of a claim 'are generally given their ordinary and customary meaning,'" *Id.* at 1312 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)), which is the meaning that a person of ordinary skill in the art would have understood the claim term to have as of the filing date of the patent application, *Id.* at 1313. "[U]nless compelled to do otherwise, a court will give a claim term the full range of its ordinary meaning as understood by an artisan of ordinary skill." *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001).

A. Intrinsic Evidence

1. **The claims and specification are the most relevant sources.**

To determine the meaning of words in the claims, courts look first to the patent itself. *Phillips*, 415 F.3d at 1315–17. It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude. *Id.* at 1312. The claims themselves provide substantial guidance as to the meaning of particular claim terms. *Id.* at 1314.

The specification is also relevant. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction. *Id.* at 1316.

2. **It is improper to import limitations from the specification.**

While this Court must review the patent specification, it is only for the purpose of interpreting the claims' stated terms, not to incorporate particular features exhibited in the specification into the claim. *See Saunders Grp., Inc. v. Comfortrac, Inc.*, 492 F.3d 1326, 1332–33 (Fed. Cir. 2007)[5]; *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004). As noted by the Federal Circuit, the respective roles of the claim language and the specification during the claim construction process are defined by two cannons which sometimes appear in tension: "(a) one may not read a limitation into a claim from the written description; but (b) one may look into the written description to define a term already in a claim limitation." *Renishaw*

[5] All emphasis herein is added unless otherwise noted.

PLC v. Marposs Societa' Per Azioni, 158 F.3d 1243, 1248 (Fed. Cir. 1998). The Federal Circuit has repeatedly held that courts may not import limitations from embodiments disclosed in the specification to limit or vary the meaning of the claim language. *See, e.g.*, *Liebel-Flarsheim*, 358 F.3d at 906; *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327–28 (Fed. Cir. 2002); *Inverness Med. Switzerland GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1379 (Fed. Cir. 2002) ("It is improper to limit the claim based on a preferred embodiment of the invention.").

3. **Prosecution History**

Although the prosecution history "lacks the clarity of the specification and thus is less useful for claim construction purposes," it "can often inform the meaning of the claim language by demonstrating how the inventor understood the invention." *Phillips*, 415 F.3d at 1317.

B. Extrinsic Evidence

While extrinsic evidence may "help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean," it must be considered in the context of the intrinsic record. *Id.* at 1319.

V. DISPUTED TERMS AND PHRASES

1. **"mapping"** ('424 pat., cls. 25. 28; '847 pat., cl. 1) / **"to map"** ('443 pat., cls. 1, 9)

Plaintiffs' Proposal	Defendants' Implicit Proposal[6]
"logically assigning" / "to logically assign"	"to dynamically vary the assignments of" / "dynamically varying the assignment of"

The '424 and '847 patents' asserted claims contain "means for mapping" signals between (A) interconnection means/pins or signals lines and (B) contact pins, depending upon the type of memory card inserted into the port. *See* '424 pat. at cls. 25, 28; '847 pat. at cl. 1. The '443 patent's asserted claims include a controller (chip) "to map" (A) contact pins to (B) signal lines, based on an identified type of memory media card. *See* '424 pat. at cls. 25, 28. The meaning of

[6] Defendants have not set forth a proposal for "mapping" / "to map" in isolation. However, Defendants' proposal for the larger "means for mapping . . ." and "to map . . . " phrases reveals Defendants' proposal for these terms. *See infra* Section V(2).

"mapping" and "to map" is in dispute.

a. "Mapping" is "logically assigning."

The intrinsic evidence implicitly defines "mapping" as "logically assigning." *Phillips*, 415 F.3d at 1321 ("The specification acts as a dictionary . . . when it defines terms by implication."). For instance, the patents state that "FIG. 5 is a table of pin mappings . . . . in accordance with one embodiment . . . ." '847 pat. at 6:19-22.[7] This table shows that "mappings" are simply "assignments"—here, assignments of signals to pins. In Figure 5's embodiment, set forth above, eight data bits or signals (D0-D7) are mapped or assigned to occupy pins 10-17 for SmartMedia cards. *See* '847 pat. at 6:23-2 ("8 ***bits*** denoted as D0-D7 . . . ***occupy pins*** 10-17.").[8] Similarly, Figure 4 sets forth the mappings for three different types of cards to a 21 pin adapter. In each disclosed embodiment, signals are mapped or assigned to particular pins.[9] *See* '443 pat. at 5:53-57 ("FIG. 4 is a table of pin mappings for the SmartMedia, MMC/SD, and Memory Stick to a 21-pin connector in accordance with one embodiment of the present invention.").

Bits and signals are not physical structures. They are logical concepts. Thus, the disclosed mappings/assignments are logical mappings/assignments. *See, e.g.*, '847 pat. at 6:23-28) ("[B]its . . . occupy pins . . . .").[10] Plaintiffs' proposal appropriately clarifies the same.

Thus, Plaintiffs' proposal—which most naturally aligns with the invention and captures

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[7] '443 pat. at 6:25-28 (same); '424 pat. at 6:32-35 (same).

[8] '443 pat. at 6:30-32 (same); '424 pat. at 6:38-39 (same). *See also* Fig. 4; '847 pat. at 5:43-45 ("FIG. 4 is a table of pin mappings . . . in accordance with one embodiment of the present invention."); '443 pat. at 5:54-57 (same); '424 pat. at 5:56-59 (same); '847 pat. at 5:47-6:9; '443 pat. at 6:58-6:15; '424 pat. at 5:60-6:22.

[9] Extrinsic evidence also confirms that "mapping" is "assigning." Merriam-Webster's Collegiate Dictionary 708 (10th ed. 2001) (map) (" . . . to assign (as a set or element) in a mathematical or exact correspondence . . . ."), Ex. G.

[10] '443 pat. at 6:29-32 (same); '424 pat. at 6:36-39 (same); '847 pat. cl. 1 ("mapping . . . *signals* . . . ."); '424 pat. at cl. 25 ("mapping . . . *signals* . . . ."). While the '443 patent claims "a controller [chip] to map . . . . contact pins to . . . signal lines," the mapping/assigning is logically accomplished by mapping/assigning signals to signal lines. For example, controller connector pins 1-18 in Figure 5 correspond to the signal lines connected to the controller. '847 File History, Resp. to 9/21/09 Office Action at 6-7, Ex. I. Interconnection means connect these signal lines to the contact pins of the respective cards. *Id.* That is, a physical path exists between the signal lines, interconnection means/pins, and contact pins. Thus, by mapping/assigning a signal to occupy a pin, an electrical connection is formed over the path, thereby *logically* mapping/assigning a contact pin to a signal line in that path.

the definition implicitly set forth by the intrinsic evidence—should be adopted. *Phillips*, 415 F.3d at 1316, 1321.

b. Defendants' "dynamic variation" should be rejected.

Defendants' proposal is not supported in the intrinsic record and violates the law that claim terms are generally to be given their plain and ordinary meaning to one of skill in the art when read in the context of the intrinsic evidence. *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir.), *cert. denied*, 135 S. Ct. 719 (2014). The specification is fairly concise and straightforward and contains no suggestion of "dynamic variation."

Defendants' proposed construction also appears to improperly exclude disclosed embodiments. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (A construction that would exclude the preferred embodiment "is rarely, if ever, correct and would require highly persuasive evidentiary support."). One dictionary definition states that "dynamic" means "always active or changing." Merriam-Webster Dictionary (online) (dynamic), Ex. H. But any requirement that the "mapping" must be always changing improperly excludes disclosed embodiments. For example, Figure 5's embodiment shows that if the identified card type is SmartMedia, eight data signals are always assigned to pins 10-17 to transfer data. Thus, contrary to Defendants' proposal, once the card type is identified as SmartMedia, the signals remain consistently assigned. They are not varied—let alone always varying.[11]

To the extent that Defendants have simply selected poor word choices in attempt to propose that "mapping" requires "dynamically varying assignments" because it happens based on the identified card type, Defendants' proposal should be rejected as an attempt to needlessly rewrite the claims. The asserted claims already set forth that "mapping" occurs depending upon, or based on, the identified type of memory media card.[12] *U.S. Surgical Corp. v. Ethicon, Inc.*,

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[11] Defendants' proposal is also nonsensical. If the assignments were always varied once the memory card type was identified, it is unclear how the invention would work, as specific assignments are required for each type of memory card.

[12] '424 pat. at cls. 25 ("mapping . . . depending upon the identification of the type of memory card . . . ."), 28 (similar); '443 pat. at cls. 1 ("to map . . . based on an identified type of a memory media card."), 9 (similar); '847 pat. at cl. 1 ("mapping . . . depending upon the identification of the type of memory card . . . .")

103 F.3d 1554, 1568 (Fed. Cir. 1997) ("The Markman decisions do not hold that the trial judge must repeat or restate every claim term in order to comply with the ruling that claim construction is for the court . . . . [Claim Construction] is not an obligatory exercise in redundancy.")

Accordingly, Defendants' proposal should be rejected.

2. **The "controller to map" and "means for mapping" phrases**

(a). a controller [chip] "to map at least a subset of the [at least one] set of contact pins to a set of signal lines or power lines, based on [an] identified type of a memory media card" ('443 pat., cls. 1 and 9)

Plaintiffs' Proposal	Defendants' Proposal
a controller chip "to *logically assign* at least a subset of the [at least one] set of contact pins to a set of signal lines or power lines, based on an identified type of a memory media card"	a controller chip "to dynamically vary the assignments of contact pins to signal lines or power lines based on an identified type of memory media card" The mere use of additional signal lines in some circumstances but not others, based upon fixed assignments, does not constitute mapping.

(b). "means for mapping power, ground or data signals between said signal lines and said contact pins depending upon the identification of the type of memory card inserted into said port . . . wherein the means for mapping comprises a controller" ('847 pat., cl. 1)

Plaintiffs' Proposal	Defendants' Proposal
This term is <u>not</u> governed by 35 U.S.C. § 112, ¶ 6. "means for *logically assigning* power, ground or data signals between said signal lines and said contact pins depending upon the identification of the type of memory card inserted into said port . . . wherein the means for *logically assigning* comprises a controller" To the extent that this term is governed by 35 U.S.C. § 112, ¶ 6, the structure is "a controller" and the function is that recited by the claims.	This term is governed by 35 U.S.C. § 112, ¶ 6. **<u>Structure</u>**: "a controller" **<u>Function</u>:** "dynamically varying the assignment of power, ground or data signals between said interconnection pins and said one or more contact pins depending upon the identification of the type of memory card inserted into said port" Note: This term is indefinite because no algorithm is disclosed and because it does not provide reasonable certainty as to whether "between" modifies the signals or the structure of the means.

(c). "means for mapping power, ground or data signals between said interconnection [pins/means] and said one or more contact pins depending upon the identification of the type of memory card inserted into said port" ('424 pat., cls. 25 and 28)

Plaintiffs' Proposal	Defendants' Proposal
This term is governed by 35 U.S.C. § 112, ¶ 6 for claims 25 and 28 of the '424 patent. **Structure:** "a controller" **Function:** "*logically assigning* power, ground and/or data signals between said interconnection [pins/means] and said one or more contact pins depending upon the identification of the type of memory card inserted into said port" For claims dependent claims 26 and 29 of the '424 patent, this term is not governed by 35 U.S.C. § 112, ¶ 6. Therefore, it cannot be indefinite for the alleged failure to disclose an algorithm.[13]	This term is governed by 35 U.S.C. § 112, ¶ 6. **Structure**: "a controller" **Function:** "dynamically varying the assignment of power, ground or data signals between said interconnection pins and said one or more contact pins depending upon the identification of the type of memory card inserted into said port" Note: This term is indefinite because no algorithm is disclosed and because it does not provide reasonable certainty as to whether "between" modifies the signals or the structure of the means.

There are four primary disputes in relation to these "mapping" phrases.

a. Dispute no. 1: the functional language of the mapping phrases.

First, the parties dispute what it means to (a) map contact pins to signal lines ('443 pat., cls. 1, 9), (b) map signals between signal lines and contact pins ('847 pat., cl. 1), and (c) map signals between interconnection pins/means and contact pins ('424 pat., cls. 25, 28). As explained *supra* Section V(1), the "mapping" is "logically assigning." Defendants' "dynamic assignment variation" limitation must therefore be rejected.

Defendants' proposal must also be rejected because it unjustifiably modifies the remaining functional language recited by the claims.[14] *See Hill-Rom Servs.*, 755 F.3d at 1371.

Defendants' proposal for the "controller [chip] to map . . ." phrases of the '443 patent

[13] To the extent that this term is governed by 35 U.S.C. § 112, ¶ 6 for claims 26 and 29, the structure is "a controller" and the function is that recited by the claims.

[14] For example, claim 1 of the '847 patent recites "means for mapping power, ground or data signals between **[1] said signal lines** and **[2] said contact pins** . . . ." Defendants, however, change this language to "dynamically varying the assignment of power, ground or data signals between **[1] said interconnection pins** and **[2] said one or more contact pins** . . . ." Defendants thus conflate "signal lines" with "interconnection pins."

must further be rejected because of its caveat that "[t]he mere use of additional signal lines in some circumstances but not others, based upon fixed assignments, does not constitute mapping."[15, 16] There is no support for this caveat, which is a negative limitation. Absent express disclaimer or independent lexicography in the written description—none of which exist here—negative limitations cannot be added into the claims. *See Omega Eng'g, Inc, v. Raytek Corp*., 334 F.3d 1314, 1323 (Fed. Cir. 2003)

This caveat also has an inherent contradiction, which causes confusion. For example, in Figure 5's embodiment, if signals are assigned to signal lines 1-18 for one card type (one circumstance), but only assigned to signal lines 1-10 for another card type (the other circumstance), there can be no "fixed assignments." Thus, this caveat serves only to cause confusion, which will require supplemental claim construction.

b. Dispute No. 2: whether the "means for mapping" phrases are governed by 35 U.S.C. § 112, ¶ 6, thereby requiring the Court to import structure from the specification.

The second primary dispute is whether the "means for mapping" phrases are governed by 35 U.S.C. § 112, ¶ 6. Section 112 ¶ 6 provides that "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the structure, material, or acts described in the specification and equivalents thereof."

While the use of the word "means" gives rise to a presumption that that § 112, ¶ 6 is invoked, this presumption is not conclusive. *Sage Products, Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1427 (Fed. Cir. 1997). Where a claim recites a function, but goes on to elaborate sufficient structure, material, or acts within the claim itself to perform entirely the recited function, the claim is not in means-plus-function format so as to invoke § 112, ¶ 6 . *Id.* To overcome the presumption, the claim need not exhaustively recite structure. *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1304 (Fed. Cir. 1999). It need only recite sufficient structure. *Id.*

[15] Defendants do not propose this caveat for the '424 or '847 patents.

[16] Plaintiffs note that Defendants appear to borrow this "caveat" from the ALJ's Initial Determination and the Commission Opinion. This is a prime example of Defendants' attempt to parlay aspects of the ITC non-infringement finding into a claim construction ruling.

i. ’847 patent, claim 1: “means for mapping . . . wherein the means for mapping comprises a controller.”

Turning first to ’847 patent claim 1, “means for mapping . . .” should not be subject to § 112, ¶ 6. While the claim uses the words “means,” it goes on to recite sufficient structure to perform the corresponding “mapping” function. This structure is “a controller.”[17] ’847 pat. at cl. 1 (“means for mapping . . . wherein the means for mapping comprises a controller.”).

Unsurprisingly, Defendants do not dispute that “a controller” is sufficient structure for the function of “to map . . . ” in ’443 patent claims 1 and 9. If “a controller” is sufficient structure “to map” there, it must be sufficient structure “for mapping” in the ’847 patent. Indeed, multiple technical dictionary definitions affirm the sufficiency of “a controller” as structure.[18, 19] Accordingly, the Court need not look to the specification to import structure into the claims. For this reason alone, Defendants’ indefiniteness contention fails, as it is predicated on invocation of § 112, ¶ 6 which is inapplicable here. Plaintiffs’ proposal should therefore be adopted.

ii. ’424 patent, claims 26 and 29: “means for mapping . . . . where the means for mapping comprises a controller”

With respect to ’424 patent claims 26 and 29, any presumption that the “means for mapping” phrases are subject to § 112, ¶ 6 is also overcome. As in the case of the ’847 patent,

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[17] *See Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 705 (Fed. Cir. 1998) (“[T]he term ‘detector’ is a sufficiently definite structural term to preclude the application of § 112, ¶ 6.”)

[18] A claimed expression cannot be said to be devoid of structure if it is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function. *Williamson v. Citrix Online, LLC*, 770 F.3d 1371, 1378-79 (Fed. Cir. 2014) The Federal Circuit has frequently looked to the dictionary to determine if a disputed term has achieved recognition as a term denoting structure. *Id.*

[19] Oxford Dictionary of Computing 111(6th ed. 2008) (controller), Ex. J (“A subsystem that governs the functions of attached devices but generally does not change the meaning of the data that may pass through it.”); Oxford Dictionary of Computing 106 (4th ed.1996) (controller), Ex. K (same); Alan Freedman, *The Computer Glossary* 75-76 (9th ed. 2001) (controller), Ex. L (“Within the computer, a control unit, or controller, hardware that performs the physical data transfers between memory and a peripheral device, such as a disk or screen, or a network.”); IBM Dictionary of Computing 342 (10th ed. 1993) (input/output controller), Ex. M. (“A functional unit that controls one or more input/output channels).

these claims recite "a controller" as sufficient structure for "means for mapping." '424 pat. at cl. 26 ("Apparatus according to claim 25, where the means for mapping comprises a controller."), cl. 29. Thus, to the extent that Defendants are contending that '424 patent claims 26 and 29 are indefinite based on invocation of § 112, ¶ 6, Defendants' contention fails. These claims recite sufficient structure for "means for mapping," taking them out of the purview of § 112, ¶ 6.

iii. '424 patent, claims 25 and 28: "means for mapping . . ."

Claims 25 and 28 of the '424 patent are the only asserted claims where structure is not explicitly recited for the "means for mapping . . ." elements. The parties agree that claims 25 and 28 are subject § 112, ¶ 6. The dispute relevant to claims 25 and 28 is addressed below.

c. Dispute No. 3: for the "means for mapping" phrases subject to § 112, ¶ 6, whether the specification discloses sufficient structure, thereby rendering the mapping phrases definite.

The parties agree that the "means for mapping" phrases of '424 patent claims 25 and 28 are subject to § 112, ¶ 6 and that the specification discloses "a controller" as corresponding structure. The parties disagree as to whether "a controller" is sufficient structure.[20] Defendants apparently contend that "a controller" is insufficient because the specification (allegedly) fails to disclose an algorithm for the controller. Defendants therefore assert that the "means for mapping" phrases are indefinite. Defendants are incorrect on two fronts. First, the law does not require the specification to disclose an algorithm for the "controller;" the controller itself is sufficient structure. Second, even if an algorithm was required, sufficient algorithm is disclosed.

1. The "controller" itself is sufficient structure; no algorithm is required.

A challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, *by clear and convincing evidence*, that the specification lacks disclosure of structure sufficient to be understood by one skilled in the art as being adequate to perform the recited function. *Chicago Bd. Options Exch., Inc. v. Int'l Sec. Exch., LLC*, 748 F.3d

[20] The "means for mapping" phrase in claim 1 of the '847 patent and claims 26 and 29 of the '424 patent should not be subject to § 112, ¶ 6, as explained *supra* Sections V(2)(b)(i) and (ii). However, even if they were, the specification discloses sufficient structure (i.e., "a controller") for the same reasons described herein in relation to the claims 25 and 28 of the '424 patent.

1134, 1141 (Fed. Cir. 2014), *reh'g denied* (May 5, 2014).

Whether the written description adequately sets forth the corresponding structure must be considered from the perspective of a person skilled in the art. *Telcordia Technologies, Inc. v. Cisco Sys.*, Inc., 612 F.3d 1365, 1376 (Fed. Cir. 2010). The question is not whether one of skill in the art would be capable of implementing a structure to perform the function, but whether that person would understand the written description itself to disclose such a structure. *Id.* While the specification must disclose the structure that actually performs the recited function, it need not include all things necessary to enable the claimed invention to work. *Id.* Rather, the specification need only disclose adequate defining structure to render the bounds of the claim understandable to an ordinary artisan.[21] *Id.*

During ITC Inv. No. 841, Defendants argued that the controller was a general purpose computer or microprocessor, thereby invoking a requirement that the specification disclose an algorithm for the "mapping" function. According to Defendants, an algorithm was not disclosed, and the "means for mapping" phrases were allegedly indefinite. Defendants presumably seek to rehash the same argument here in support of their indefiniteness contention.

Defendants' argument was rejected in ITC and should be rejected here.[22] Order No. 23 at 36-39, Inv. No. 337-TA-841, Ex. N (hereinafter, "ITC CC Order"). The disclosed controller is not limited to a general purpose computer or microprocessor. Technical definitions of "controller" confirm the same. *See supra* at 12 n.19. Mr. Buscaino, one of ordinary skill in the art, submitted a declaration on this issue in ITC Inv. No. 841, further confirming that the disclosed controller is not limited to a general purpose computer or microprocessor. *See* August 2, 2012 Decl. of Dale E. Buscaino at *Id.* at ¶¶ 1-20, Ex. O ("8/2/12 Buscaino Decl."). As Mr. Buscaino testified, the controller linked to the "mapping" function does not require programming. *Id.* at ¶¶ 19-20. Rather, it is an integrated circuit that can manage input / output (for example,

[21] "[T]he absence of internal circuitry in the written description does not automatically render the claim indefinite." *Id.* (internal quotations omitted).

[22] "The ALJ agrees with TPL that the controller is sufficient structure . . . . The record shows that an ordinary artisan would have recognized the controller as an electronic device with a known structure." ITC CC Order at 37-38, Ex. N.

flash memory card input / output), without the need for a computer or microprocessor and without any programmed algorithm. *Id.* at ¶¶ 20. Defendants cannot meet their burden.

2. Even if algorithm disclosure was required, the specification discloses an algorithm.

If required, one of ordinary skill in the art would find sufficient algorithm in the specification for the "controller" to perform the "mapping." *See* 8/2/12 Buscaino Decl. at ¶¶ 21-31.[23] An algorithm may be expressed in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure to a person of ordinary skill in the art. *Chicago Bd. Options Exch., Inc.*, 748 F.3d at 1141.

In this case, as evidenced by specification and Mr. Buscaino's testimony, the asserted patents express an algorithm for "mapping" in understandable terms. For instance, Figures 4 and 5 of the '424 and '847 patents each disclose detailed pin mapping tables. 8/2/12 Buscaino Decl. at ¶ 23, Ex. O.[24] These tables disclose an algorithm for logically mapping or assigning power, ground, or data signals to signal lines based on an identified type of memory media card.

As one example, if a card is identified as SmartMedia, Figure 4 teaches how to map, or logically assign, the data, power, and ground signals. 8/2/12 Buscaino Decl. at ¶ 24, Ex. O.[25] Specifically, Figure 4 teaches the algorithm of mapping, or logically assigning, signals D1-D7 to pins 2-8, a ground signal to pin 18, and a power signal to pin 19. 8/2/12 Buscaino Decl. at ¶ 24, Ex. O.[26]

Because the pins of Figure 4 correspond to the signal lines connected to the controller, and the interconnection means connect these signal lines to the contact pins, one of ordinary skill in the art would understand that Figure 4 teaches how to map, or logically assign, these signals between (a) the signal lines or interconnections means/pins and (b) the contact pins. 8/2/12 Buscaino Decl. at ¶ 30; '847 File History, Resp. to 9/21/09 Office Action at 6-7, Ex. I ("[C]onnector pins 1-21 (Fig. 4) and 1-18 (Fig. 5) correspond to the signal lines connected to the

[23] *See also* '424 and '847 pats., Figs. 4 and 5; '424 pat. at 5:54-6:63; '847 pat. at 5:41-6:49.
[24] *See also* '424 pat. at 5:54-63; '847 pat. at 5:41-49.
[25] *See also* '424 and '847 pats., Figs. 4, 5; 5:54-63; '847 pat. at 5:41-49.
[26] *See also* '424 and '847 pat., Figs. 4, 5; 5:54-63; '847 pat. at 5:41-49.

controller, and the interconnection means connect these signal lines (connector pins) to the contact pins of the respective cards.").

The '424 and '847 patents' specifications, Figures 4 and 5, and related U.S. Patent No. 6,438,638 similarly teach in understandable terms how to perform the "mapping" function based on an identified type of memory card.[27] '424 pat., at Figs. 4-5, 5:54-6:63; '847 pat., at Figs. 4-5, 5:41:6-49; '638 pat. at Fig. 5, 6:35-11:22; 8/2/12 Buscaino Decl. ¶¶ 25-31, Ex. O.

Accordingly, even if disclosure of an algorithm were required to render the "means for mapping" definite, a sufficient algorithm is disclosed. Defendants cannot meet their burden to demonstrate by clear and convincing evidence that insufficient structure is disclosed under § 112, ¶ 6.[28] Defendants' proposals for the "means for mapping" phrases must be rejected.

d. Dispute No. 4: In the "means for mapping" phrases, whether there is reasonable certainty as to whether "between" modifies the signals or the structure of the means.

A claim is definite if it, read in light of the specification delineating the patent, and the prosecution history, informs, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120, 2124 (2014). General principles of claim construction apply to a determination of indefiniteness. *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1346 (Fed. Cir. 2007). While the definiteness requirement mandates clarity, it recognizes that absolute precision is unattainable.[29] *Nautilus*, 134 S. Ct. at 2129. Indefiniteness must be shown by clear and convincing evidence. *Young*, 492 F.3d at 1344-45.

Defendants' "between" argument is that it is somehow unclear (A) whether the *controller* is "between" the (i) signal lines or interconnection pins/means and (ii) the contact pins or (B)

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[27] The '638 patent is a related parent to the '424 and '847 patents. *See* '424 pat. at 1:7-32: '847 pat. at 1:7-30. It is incorporated by reference in its entirety into the '424 and '847 patents. *Id.*; *see Harari v. Lee*, 656 F.3d 1331, 1335-36 (Fed. Cir. 2011); *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 760 (Fed. Cir. 1984).

[28] Even if Defendants could meet their burden with respect to the "means for mapping" phrases of claims 25 and 28 of the '424 patent, '847 patent claim 1, and '424 patent claims 26 and 29 still remain valid, as explained *supra* Section V(2)(b)(i) and (ii).

[29] "'[T]he certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.'" *Nautilus,* 134 S. Ct. at 2129. "[A] patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement." *Oakley, Inc. v. Sunglass Hut Intern.*, 316 F.3d 1331, 1341 (Fed. Cir. 2003).

whether *signals* are mapped "between" the (i) signal lines or interconnection pins/means and (ii) the contact pins. One of ordinary skill in the art would understand in light of the intrinsic evidence, with more than reasonable certainty, that "between" modifies the signals, and not the structure (i.e., the controller) that accomplishes the mapping. The intrinsic evidence is clear.

For example, claim 1 of the '847 patent specifies exactly how the relevant structure are connected. "A set of signal lines [is] connected to a controller." '847 pat. at 8:39. "[T]he signal lines [are] located between the controller and an interconnection means." *Id.* at 8:41. "[T]he interconnection means . . . connect[] said signal lines to . . . contact pins." *Id.* at 8:43-45. Thus, the claim itself requires an order of connection: controller → signal lines → interconnection means → contact pins. The applicant affirmed the same order of connection during prosecution of the '847 patent.[30] '847 File History, Resp. to 9/21/09 Office Action at 6-7, Ex. I ("[C]onnector pins 1-21 (Fig. 4) and 1-18 (Fig. 5) correspond to the signal lines connected to the controller, and the interconnection means connect these signal lines (connector pins) to the contact pins of the respective cards.").

One of ordinary skill would understand, with complete certainty, that the controller is not located "between" the (A) signal lines/interconnection pins/means and (B) the contact pins. Mr. Buscaino, one of ordinary skill in the art, has opined on this issue and confirms the same. 1/29/15 Declaration of Dale E. Buscaino at ¶¶ 16-41 ("1/29/15 Buscaino Decl."), Ex. P. Defendants' contrived indefiniteness contention has no merit.[31] Defendants cannot meet their burden.

[30] This affirmation applies with equal force in relation to the '424 patent claims, as the '424 and '847 patents are related. *See Gemalto S.A. v. HTC Corp.*, 754 F.3d 1364, 1371 (Fed. Cir. 2014).

[31] Unsurprisingly, Defendants' same argument was rejected in ITC Inv. No. 841. Order No. 40 at 3, Inv. No. 337-TA-841, Ex. Q ("HiTi simply (inexcusably) misreads the claim language . . . . The ALJ further agrees with TPL that the phrase 'between said interconnection pins and said one or more contact pins . . .' is modifying 'data signals' and not the physical means that is accomplishing it."); ID at 113, Ex. E ("The language 'between said lines and said contact pins' does not describe the physical location of the controller-it is attempting to describe the function of the controller.").

3. **"means for [identifying/determining] the type of memory card inserted into said port"** ('424 pat., cls. 25 and 28; '847 pat., cl. 2)

Plaintiffs' Proposal	Defendants' Proposal
This term is governed by 35 U.S.C. § 112, ¶ 6 **Function**: "identifying the type of memory card inserted into said port" **Structure**: "a controller"	This term is governed by 35 U.S.C. § 112, ¶ 6 **Function**: "identifying the type of memory card inserted into said port" **Structure**: "a controller and card detect lines for the various cards, wherein the card detect lines for some cards are multiplexed with signal lines for at least one other card"

This phrase is highlighted below in exemplar claims of the '424 and '847 patents.

a set of signal lines connected to said interconnection pins; means for identifying the type of memory card inserted into said port;

'424 patent at cl. 25.

2. Apparatus according to claim 1 where said controller comprises means for determining the type of memory card inserted into said port.

'847 patent at cl. 2.

The parties agree that the "means for identifying . . ." and "means for determining . . ." phrases of the '424 and '847 patents (the "means for identifying" phrases) are governed by 35 U.S.C. § 112, ¶ 6. The parties similarly agree the function is that recited by the claims. *See Omega Eng'g*, 334 F.3d at 1323. The dispute is over the corresponding structure.

Plaintiffs propose that the corresponding structure is "a controller," as held by the ALJ in the related ITC investigation. ITC CC Order at 49, Ex. N. Defendants agree that the disclosed structure includes "a controller," but improperly attempt to inject additional structure and functional limitations. A similar proposal was rejected in ITC Inv. No. 841. ITC CC Order at 49-50, Ex. N. For the reasons explained below, Defendants' proposal should be rejected here.

1. **"Card detect lines" are not required to perform the "identifying" function.**

In the ITC, Defendants proposed that the structure corresponding to the "means for identifying" was "a controller *that reads card detect lines for various cards* . . ." ITC CC Order at 47, Ex. N. Defendants now similarly seek to limit the structure to "a controller *and card detect lines for the various cards*." This proposal retains the same flaws rejected by the ITC and

introduces others. Defendants' proposal should again be rejected here.

As the ALJ held in his claim construction order, the corresponding structure is a controller. *Id.* at 49. The structure is not as narrow as Respondents contended in that investigation. *Id.* The intrinsic evidence compelled the ALJ's construction in the ITC, and should compel the Court's construction here. While card detect lines are discussed in relation to some embodiments, the specification is clear that card detect lines are optional (e.g., they may be replaced by binary state of data or other card pins). '424 pat. at 6:41-49 ("Detection is determined by detection of which of the mapped card detect lines is pulled low . . . or by the (binary) state of data or other card pins . . . .").[32]

Further, other embodiments are discussed by the '424 and '847 patents without any reference at all to "card detect lines." *See* '424 patent at 5:54-6:31; '847 patent at 5:50-6:9 (same). Embodiments of the related '638 patent, incorporated by reference in its entirety into the '424 and '847 patents,[33] also discuss card detection without reference to card detect lines, and instead teach using address pins to detect card type. *See, e.g.*, '638 pat. at 5:60-6:33; 6:4-18.[34]

While Defendants' "card detect line" limitation is improper on its own, Defendants' proposal is especially flawed because it incorporates a manner of use into the corresponding structure. While the "controller" may use card detect lines or other structures to identify card type, these structures do not actually perform the "identifying" function. The controller identifies the card type. *See Telcordia Technologies, Inc.*, 612 F.3d at 1376 ("[C]orresponding structure. . . must include all structure that *actually performs* the recited function," but "need not include all things necessary to enable the claimed invention to work.").

Defendants' proposal to include "card detect lines for the various cards" must be rejected.

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[32] '847 pat. at 6:29-37 (same); *see also* ITC CC Order at 48-49, Ex. N.; 8/2/12 Buscaino Decl. at ¶¶ 40-44, Ex. O.

[33] *See supra* at 16 n.27.

[34] *Id.* ("Address pins A0 and A1 . . . Pins A0 and A1 are used to detect the type of card. For SmartMedia, the addresses are sent by using a special control-sequence followed by 3 or 6 bytes of starting address.")

2. **"Card detect lines" need not be multiplexed with signal lines to perform the "identifying" function.**

The second part of defendants' proposal—"where the card detect lines for some cards are multiplexed with signal lines for at least one other card"—should also be rejected as it was in ITC Inv. No. 841. *See* ITC CC Order at 50, Ex. N.

As an initial matter, the task at hand is to identify the corresponding *structure*—not to construe the structure to define every possible way that it may perform the function, as Defendants attempt. *See Telcordia Technologies, Inc.*, 612 F.3d at 1376. Thus, the Court need not entertain Defendants' proposal, which improperly limits how the function of "identifying" can be performed, as opposed to identifying the actual structure that performs that function.

Setting this aside, there is no lexicography or disclaimer to justify a "multiplexing" limitation. *See Hill-Rom Servs.*, 755 F.3d at 1371. And, limiting the structure as such would exclude disclosed embodiments. One definition of "multiplex" states that "multiplex" means "to interleave . . . two or more messages on a single channel." IBM Dictionary of Computing 446 (10th ed. 1993) (multiplex), Ex. M. Thus, Defendants' construction is an attempt to limit the claims to embodiments where signal lines for "some cards" are used as card detect lines for "at least one other card." This limitation contradicts the patents' disclosure, which is clear that the invention may be utilized with memory cards of any type where no multiplexing is required.[35]

[35] *See* '424 pat. at 8:32-36; ("Embodiments of the present invention have been described in reference to flash media such as xD, standard MMC/SD, standard Memory Stick, SmartMedia, miniSD, RSMMC, and MS Duo. In general, *embodiments of the invention are applicable to any generic flash media*."); '847 pat. at 8:21-25 (same).

For example, the claimed invention could be implemented only to read Mini SD, RS MMC, and Memory Stick Duo. In this embodiment, multiplexing would not be required. As shown in Figure 5, card detect (CD) lines 13, 14, and 15 are not shared with any other card types in in embodiments where only Mini SD , RS MMC, and Memory Stick Duo are supported. Each has its own non-multiplexed pin that is not shared with any other card type.

PIN	MINISD	RS MMC	MEMORY STICK DUO
1	GROUND	GROUND	GROUND
2			
3	MCMD	MCMD	BS
4	SDD0	SDD0	SDIO (MSD0)
5	SDD1	SDD1	MSD1
6	SDD2	SDD2	MSD2
7	SDD3	SDD3	MSD3
8	CLK	CLK	CLK
9			
10			
11			
12			
13	-CD5		
14		-CD6	
15			-CD7
16			
17			
18	POWER	POWER	POWER

'424 and '847 patents, Fig. 5

(edited and annotated for illustrative purposes).

Accordingly, Defendants' unsupported "multiplexing" limitation, which also contradicts the intrinsic evidence, should be rejected. Plaintiffs' proposed structure should be adopted.

3. **"interconnection means" ('424 pat., cls. 25 and 28; '847 pat., cl. 1)**

Plaintiffs' Proposal	Defendants' Proposal
"conductive elements that electrically connect"	"conductive structures separate and distinct from contact pins"

Plaintiffs' proposal is directly supported by the intrinsic evidence. '847 patent claim 1 states: "interconnection means being located between the signal lines and . . . connecting said signal lines to . . . contact pins." Thus, "interconnection means" are simply elements that "electrically connect."[36] The applicant affirmed the same during prosecution.[37] Plaintiffs' proposal should therefore be adopted. *Phillips*, 415 F.3d at 1316.

There is no lexicography or disclaimer to support Defendants' "separate and distinct" limitation. *See Hill-Rom Servs.*, 755 F.3d at 1371. This limitation will only invite future dispute

[36] '424 pat. at 5:42-53 ("Interconnects 312 . . . electrically connect . . . ."); '847 pat. at 5:29-30 (same).

[37] '847 File History, Resp. to 9/21/09 Office Action at 6-7, Ex. I ("[I]nterconnection means connect these signal lines . . . to the contact pins . . . ."); *see supra* at 17 n.30.

about what constitutes a "separate and distinct" structure, requiring further claim construction.

4. **"memory media card"** ('443 pat., cls. 1, 9; '424 pat., cls. 25, 28; '847 pat., cl. 1)

Plaintiffs' Proposal	Defendants' Proposal
Plain and ordinary meaning; no construction necessary.	"a removable module capable of storing electronic data"

This term will be readily comprehensible to the finder of fact. No construction is necessary. *U.S. Surgical Corp.*, 103 F.3d at 1568. Defendants' proposal to unnecessarily construe this term should be rejected.

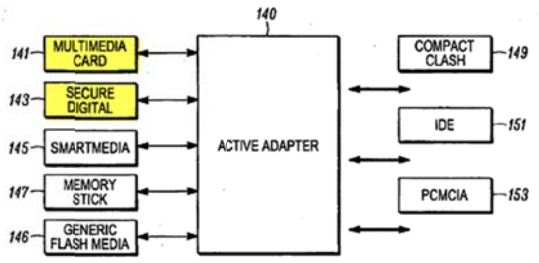
5. **"types of memory media cards" (**'424 pat., cls. 25 and 28; '847 pat., cl. 1)

Plaintiffs' Proposal	Defendants' Proposal
Plain and ordinary meaning; no construction necessary.	Different "types of memory media cards" have incompatible physical interfaces. For purposes of mapping/identifying in these claims, MMC/SD is a single type of memory media card.

This term will be readily comprehensible to the finder of fact. No construction is necessary. *U.S. Surgical Corp.*, 103 F.3d at 1568. Defendants, however, seek to advance the same non-infringement loophole that was rejected at the ITC. ITC CC Order at 39-47, Ex. N.

The Court should again reject Defendants' proposal. Nowhere has the patent applicant "clearly expressed an intent" to define SD and MMC as the same card type. *See Hill-Rom Servs.*, 755 F.3d at 1371 (Fed. Cir. 2003); *Omega Eng'g, Inc*, 334 F.3d at 1323. Nor has the applicant disclaimed the full scope of this phrase to exclude SD and MMC as different card types. *See id.*

To the contrary, the applicant made clear throughout intrinsic evidence that SD and MMC are different types of memory media cards. The patents visibly depict MMC and SD cards as different card types (see right).



'424, '847, and '443 patents, Fig. 1.[38]

[38] *See also* '424 pat. at 2:2-3 ([T]he reader [in Figure 1] can adapt to a Multimedia Card 141, or a Secure Digital card 143 . . . "); '847 pat. at 1:56-57 (same); '443 pat. at 1:67-2:1 (same).

The patents' specifications also refer to SD and MMC as different card types, stating that "MultiMediaCard 141, or a Secure Digital card 153 . . . have . . . different pin-out." '424 patent at 2:2-4; '847 patent at 1:57-58; '443 patent at 2:1-2. During prosecution, the applicant repeatedly confirmed the same. '847 File History, Resp. to 9/21/09 Office Action at 7, Ex. I ("MMC and SD are themselves different card types."); s*ee also* '847 File History, Resp. to 3/9/09 Office Action at 9, Ex. R. The applicant even described differences between MMC and SD card types.[39] And, expert testimony confirms that they are different. 8/2/12 Buscaino Decl. at ¶ 26, Ex. O. Defendants' proposal must be rejected.

6. **contact pins "are integrated within [the] molded plastic"** ('443 pat., cls. 1, 9) / **controller "integrated into the multi-memory media adapter"** ('443 pat., cl. 9)

Plaintiffs' Proposal	Defendants' Proposal
Plain and ordinary meaning; no construction necessary.	contact pins "are embedded within molded plastic" Contact pins do not correspond to floating contact pins. controller "embedded into the multi-memory media adapter"

These phrases mean just what they say and will be readily comprehensible to the finder of fact. No construction is necessary. *U.S. Surgical Corp.*, 103 F.3d at 1568. They do not need to be rewritten. *Id.* And, there is no lexicography or disclaimer to support Defendants' negative limitation, seeking to exclude "floating contact pins." *Omega Eng'g, Inc.*, 334 F.3d at 1323. This negative limitation should be rejected, as it was at the ITC. ITC CC Order at 23-35, Ex. N.

7. **contact pins "mounted on said surface at locations adapted to interface with the electrical contacts of a corresponding one of a plurality of different types of memory media cards when inserted into said port"** ('424 pat., cls. 25 and 28; '847 pat., cl. 1)

Plaintiffs' Proposal	Defendants' Proposal
Plain and ordinary meaning; no construction necessary.	contact pins "mounted on the surface of the housing at locations that vary by each card's insertion depth into the port"

This phrase will be readily comprehensible to the finder of fact. No construction is

[39] '847 File History, Resp. to 9/21/09 Office Action at 10, Ex. I; '424 File History, Resp. to 3/14/08 Office Action at 11, Ex. S.

necessary. *U.S. Surgical Corp.*, 103 F.3d at 1568. Defendants' proposal drastically deviates from the claim language and improperly attempts to inject a limitation that requires a set (or one or more sets) of contact pins to be mounted at locations "*that vary by each card's insertion depth into the port*." There is no reason why the location must *vary by card insertion depth*. And, there is no lexicography or disclaimer to justify such a limitation. *See Hill-Rom Servs.*, 755 F.3d at 1371 (Fed. Cir. 2003). Defendants' proposal must be rejected.

8. **"said controller"** ('847 pat., cl. 2)

Plaintiffs' Proposal	Defendants' Proposal
Plain and ordinary meaning	Plain meaning. Note: This term is indefinite.

In ITC Inv. No. 841, Defendants argued that claim 1 requires two controllers. ID at 112, Ex. E. Presumably, Defendants seek to assert that claim 1 is indefinite because one of skill in the art would not understand which of the alleged two controllers "said controller" refers to.

Any such "dual controller" argument, or indefiniteness contention based thereon, must be rejected. As the ALJ acknowledged in rejecting Defendants' "dual controller" argument at the ITC, the controller connected to the signal lines in claim 1 (i.e., "a set of signal lines connected to a controller") is the same controller that does the mapping (i.e., "means for mapping . . . wherein the means for mapping comprises a controller"). *Id.* at 114; '847 pat. at cl. 1; 1/29/15 Buscaino Decl. at ¶¶ 45, 49 , Ex. P.

Thus, one of ordinary skill in the art would understand in light of the intrinsic evidence, with reasonable certainty, that "said controller" of claim 2 refers to the one and only controller of claim 1. 1/29/15 Buscaino Decl. at ¶ 45, Ex. P.; *see Nautilus, Inc.*, 134 S.Ct. at 2124.[40] As Defendants admitted at the ITC, there is no disclosure of a dual-controller system.[41] ID at 112, Ex. E; 1/29/15 Buscaino Decl. at ¶ 46, Ex. P. One of ordinary skill in the art confirms the same.

[40] *See supra* at 17 for additional applicable law on indefiniteness.

[41] Indeed, during prosecution, the applicant confirmed that the controller connected to the signal lines is the same controller that performs the "mapping" in a single-controller system. '847 File History, Resp. to 9/21/09 Office Action at 6, Ex. I ("Claim 2 [claim 1 as issued] further requires *a controller* connected to a set of signal lines . . . . *The controller maps signals* . . . ."); '847 File History, Index of Claims, Ex. T.

1/29/15 Buscaino Decl. at ¶¶ 16-18, 42-49.

There is no clear and convincing evidence supporting Defendants' contention. *See Young*, 492 F.3d at 1344-45. Defendants' proposal must therefore must be rejected.

VI. CONCLUSION

For these reasons, Plaintiffs' proposals should be adopted. Defendants' proposals should be rejected.

Dated: January 29, 2015

Respectfully submitted,

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